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World Intellectual Property Organization (WIPO) - Geneva, Switzerland  
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse

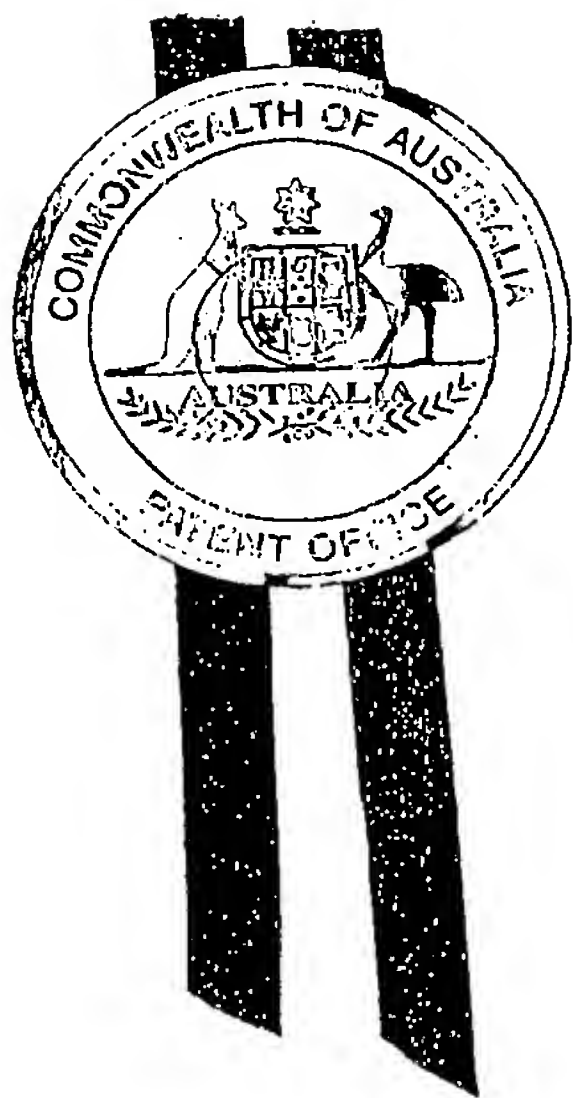


Australian Government

PCT/AU2005/000757

Patent Office  
Canberra

I, JANENE PEISKER, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2004902819 for a patent by MARK ASPLAND as filed on 27 May 2004.



WITNESS my hand this  
Sixth day of July 2005

A handwritten signature in cursive script, appearing to read 'J. Peisker'.

JANENE PEISKER  
TEAM LEADER EXAMINATION  
SUPPORT AND SALES

AUSTRALIA

Patents Act 1990

## PROVISIONAL SPECIFICATION

APPLICANT: Mark Aspland  
NUMBER:  
FILING DATE:

Invention Title: AN IMPROVED DRUM

The invention is described in the following statement:-

## **AN IMPROVED DRUM**

### **Technical Area**

This invention relates to the area of musical instruments and in particular, to an improved drum unit which is adapted to enable a user to produce a range of sounds, and can be used alone or to compliment other instruments.

While the invention relates to, and can be applied to any drum, for convenience sake it will be discussed herein in terms of a bass drum.

### **Background to the Invention**

The drum has become a popular instrument, now commonly used in Flamenco and Cuban music, which is made to produce particular sounds suited to a particular style of music. Initially, different drums had to be produced for each style of music due to the diverse sounds associated with each style of music.

In order to overcome the need for separate drums, a combination drum was produced which enabled a user to alternate between different styles sounds via a switch or lever. Thus, a user could utilise the same drum to play Flamenco, Cuban or any other styled music.

### **Outline of the Invention**

It is an object of the present invention to provide an improved drum which not only produces more than one style of sound, but also enables to the user to alter the range and frequency of the sounds and produce sounds of other instruments which are often used in accompaniment with a drum depending on the particular style of music.

The invention provides an improved drum having a resonant cavity which is adapted to produce a range of sounds and at least one means whereby the sound produced is able to be altered or changed.

It is preferred that the a first means be a plurality of internal snares which can be brought into contact with the internal surface of the unit to alter the type of sound produced.

It is preferred that a second means be an extension which is adapted to alter the frequency of the sounds produced.

It is preferred that a third means be at least one attachable sound effects board which is adapted to produce a sound that would otherwise be achieved by a separate instrument used in combination and/ or association with the drum unit.

In order that the invention may be more readily understood we will describe by way of non limiting example one specific embodiment thereof.

In this embodiment, the bass drum unit is box-shaped with a central aperture provided on a back face, or side face of the unit. In a preferred embodiment, the unit is made of a wood or material having the required strength, whilst the front face is preferably made of a plywood specifically selected for its make-up and strength and subsequently, the sound that it will produce. However, the face and/or the entire unit could also be made from any other suitable material such as aluminium, sheet metal, synthetic or natural materials depending on the sound you wish to achieve.

The inside of the bass drum unit is hollow and functions as a resonant cavity for the unit. The resonant cavity is a natural amplifier for any sound which the bass drum unit omits.

Provided on the inside of the bass drum unit are a plurality of snare wires. In a preferred arrangement, the snare wires are spaced apart from each other and are attached to the inside of either side of the box. In a first position, the snare wires are held such that they are spaced apart from the inner front surface of the unit so that they cannot interfere with the sound produced from the drum. In a second position, the snare wires are brought into and are held in contact with the inner front surface of the unit such that, when the bass drum is struck, the snare wires interfere with the normal reverberation to produce a different sound.

Movement of the snares between a first and second position is controlled via a shaft mechanism that is operated by a lever arm or the like positioned on one of the outer side surfaces. The shaft mechanism may involve a rotatable shaft member which can be located above the snare wires. One end of the shaft member should be adapted such that it is in connection with the lever. Thus, turning of the lever causes the rotation of the shaft member. This rotation may be achieved by a gear or the like to which the shaft member may be connected. Provided midway along the shaft member may be a member which is adapted to guide and control the rotation of the shaft member. Attached to the shaft can also be a member which is adapted to pick-up and drag the snares as the shaft is rotated forward or backward.

Provided on the inner front surface of the bass drum unit is a magnet so that when the lever is turned and the wires are brought into close proximity to the magnet, the magnet will attract and hold the wires in place to produce the required sound as the bass drum is struck.

An extension is provided which is adapted to be attached to an aperture provided on the bass drum unit. In a preferred embodiment, the extension may be a "boom-tube" which is adapted to be secured over the central aperture provided on the back face of the unit. The extension may have provided a securing mechanism which is adapted to connect and secure the extension to the wall of the central aperture. The extension may also have provided a seal around the perimeter of the edge of the tube which attaches to the aperture to

ensure no sound is lost, and all sound goes through the tube. The function of the "boom-tube" is to enhance the bass notes by altering the frequency of the notes that are produced by the unit. The frequency is altered by dropping the notes down produce a deeper acoustic sound.

The bass drum unit of the invention may also include attachable sound effect boards which can be attached to the unit to provide a range of alternate sounds that would otherwise be obtained from instruments that are normally used in accompaniment with a bass drum unit. Provided on the front surface of the bass drum can be at least one attachment means which is adapted to receive and hold the attachable sound effect boards in place. The attachment means may be in the form of Velcro (Registered Trade mark) tabs, or in a preferred embodiment, a means of attachment which does not produce a noise upon disconnection such as magnets. In this way, a microphone will not be able to detect any background noise that may arise when a user is placing or replacing the sound effect boards onto the unit. It is envisaged that some of the sounds that may be provided on these boards are "crack", "tamjangle", "snare", "cabasa", "cymbol", "finger cymbal", "shaker", "castanet", "guiro" and "afuche" sounds. However, the sounds which may be used are not intended to be restricted to the list provided herein.

In a further embodiment of the invention, the bass drum unit may have provided an internal bass drum stick which can be positioned within the resonant cavity of the bass drum unit to strike the rear of the face. Attached to the internal drum



could then be an actuation means which can be driven by a pedal whereby, actuation of the internal drum would be achieved by a user tapping his foot on the pedal. It is envisaged that movement of the pedal may be via a hydraulic, mechanical or any other suitable means. Such a composite bass drum unit would be able to be used as a "stomp box" for a guitarist or the like to enable the user to tap out a beat or pulse.

In practice the user sits on the top face of the drum positioning their legs about the sides of the drum. To play the drum the user simply strikes the front face to a predetermined rhythm. To alter the tone or frequency the user can then fix the "boom-tube" extension onto the back of the drum to drop the bass notes down. In order to achieve the sounds of other instruments in combination with the drum beat, the user can simply attach a particular attachable sound effects board to the front face and strike the sound effects board intermittently/periodically to achieve the desired effect.

While we have described herein particular embodiments of the bass drum unit it should be noted that the same principle could be applied to a tea chest, double bass or any other similar construction. It is also envisaged that all embodiments of the bass drum unit may be made such that the unit is able to be collapsable for easy storage and transportation.

It is further envisaged that other embodiments of the invention could exhibit variations in the features described. It is however envisaged that other embodiments of the invention will exhibit any number of and combination of the features previously described and it is to be understood that variations and modifications in this can be made without departing from the spirit and scope thereof.

DATED this 27 day of May, 2004

Mark Aspland

By His Patent Attorneys

A TATLOCK & ASSOCIATES

## PATENT COOPERATION TREATY

## PCT

10/586158

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference	FOR FURTHER ACTION	See item 4 below
International application No. PCT/AU2005/000757	International filing date (day/month/year) 27 May 2005 (27.05.2005)	Priority date (day/month/year) 27 May 2004 (27.05.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant ASPLAND, Mark, William		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

Date of issuance of this report  
29 November 2006 (29.11.2006)

Authorized officer

Dorothee Mülhausen

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Form PCT/IB/373 (January 2004)

# PATENT COOPERATION TREATY

REC'D 26 SEP 2005

WIPO PCT

From the:  
INTERNATIONAL SEARCHING AUTHORITY

To:  
A Tatlock & Associates  
PO Box 155  
CARLTON SOUTH VIC 3053

1/12

**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) 23 SEP 2005

Applicant's or agent's file reference  
1003582

FOR FURTHER ACTION  
See paragraph 2 below

International application No.  
**PCT/AU2005/000757**

International filing date (day/month/year)  
27 May 2005

Priority date (day/month/year)  
27 May 2004

International Patent Classification (IPC) or both national classification and IPC  
Int. Cl. <sup>7</sup> G10D 13/02

Applicant  
ASPLAND, Mark William

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

## 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the IPEA/AU  
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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2005/000757

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

**PCT/AU2005/000757**

**Box No. V** Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

**1. Statement**

Novelty (N)	Claims 5, 7-8, 14-22	YES
	Claims 1-4, 6, 9-13	NO
Inventive step (IS)	Claims 5, 7-8, 14-22	YES
	Claims 1-4, 6, 9-13	NO
Industrial applicability (IA)	Claims 1-22	YES
	Claims	NO

**2. Citations and explanations:**

**Novelty**

1. The invention defined in claim 1 lacks novelty in view of a large number of documents. The art is replete with suggestions and disclosures of drums whereby the sound produced is able to be altered or changed by the user as presently defined. The following documents are provided as examples chosen from many in a well traversed art:

US 4037508 A (Wolford), 26 July 1977 [Wolford]

US 4137815 A (Kloc), 6 February 1979 [Kloc]

US 2003/0061929 A (Dye), 3 April 2003 [Dye]

US 2004/0231490 A (Gatzen), 25 November 2004 [Gatzen]

All the documents cited above disclose drums which may be adjusted to produce a range of sounds.

2. The invention defined in claims 2-4 is not novel when compared with Kloc, which discloses a boxed or rectangular shaped drum wherein all the sides of the drum are relatively solid except the external surface adapted to be struck by a player. Said external surface is thin and vibrates when struck; substantially as claimed.
3. The invention defined in claim 6 is not novel when compared to Dye, which discloses a drum wherein the surface opposite the striking surface is provided with an aperture.
4. The invention defined in claims 9-13 is not novel when compared to Wolford, which discloses, *inter alia*, a snare drum. Snare drums are well known in the art. Consequently, the construction and operation of the snares as defined in claims 9-13 is also well known.
5. The invention defined in claim 5 is novel because none of the citations disclose a drum adapted to be used as a seat.

Continued in supplemental box

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/AU2005/000757

**Box No. VIII** Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. Claim 1 does not define the invention described because from reading the specification as a whole, it appears that the provision of internal snares which can be brought into contact with the internal surface of the striking surface is essential to the invention. Consequently, claim 1 is not descriptively supported.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International Application No.

PCT/AU2005/000757

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

6. The invention defined in claims 7-8 is novel because none of the citations disclose a drum which has a plurality of snares that can be brought into contact with the internal surface of the striking surface.
7. The invention defined in claims 14-17 is novel because none of the citations disclose a drum in which a bass drum stick is mounted and which is connected to a foot pedal.
8. The invention defined in claims 18-22 is novel because none of the citations disclose a drum which has attachable sound effects boards adapted to produce a sound that would otherwise be achieved by a separate instrument.

**Inventive Step**

1. The invention defined in claims 1-4, 6, 9-13 lack inventiveness as given above.